Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

Title V Proposed Final Permit No. V-04-065
Johnson Controls, Inc.-FoaMech Plant
Georgetown, Kentucky
April 14, 2005
WILLIAM L. WRIGHT, REVIEWER
Plant ID# 021-209-00020
Agency ID# 3911
Activity ID: APE20040001

SOURCE DESCRIPTION:

JOHNSON CONTROLS, INC. FOAMECH facility produces polyurethane foam automotive seat cushions using four carousel manufacturing lines. In addition, the facility has two smaller carousels to produce headrests and other automotive components such as arm rests.

Before the start of the molding operation, the interior surface of the molds is prepared so as to prevent the finished parts from sticking to the surface. This operation may involve use of either spray wax mold release agent (applied using air spray application equipment) or the paste wax mold release agent. A mixture of chemicals is poured into the molds, which are then sealed. The following chemicals are used in the foam manufacturing process - toluene diisocyanate (TDI), polyols, de-ionized water, amine catalysts, silicone surfactant, diethanol amine (DEOA). Reaction of water with TDI generates carbon dioxide gas, which causes spatial expansion (blowing), resulting in the production of foam in the shape of the mold. The process does not require use of blowing agents. Once the foam is properly cured in the curing ovens, the part is removed and inspected for any tears and voids. These are repaired by application of an adhesive glue.

EMISSION FACTORS:

All emission factors were based on source testing conducted at a similar Johnson Controls foam operation in 1981 by Cory Lab of Menominee Michigan.

APPLICABLE REGULATION:

401 KAR 59:010 New Process Operations

401 KAR 50:015 Documents Incorporated by Reference

PERIODIC MONITORING:

EP 01(01): Foam Production Lines

The daily amount of solvent based mold release agent sprayed for each line and solids content (weight percent) of solvent based mold release agent for each line shall be monitored for determining the hourly mass emission rate.

EP 06(06): Small Parts Foam Production Lines

The daily amount of solvent based mold release agent sprayed for each line and solids content (weight percent) of solvent based mold release agent for each line shall be monitored for determining the hourly mass emission rate.

EP 11(11): Mechanism Welding

The total monthly usage of the welding wire shall be monitored for determining the hourly mass emission rate.

EP 34(34): Small Parts Foam Production Lines

The daily amount of solvent based mold release agent sprayed for each line and solids content (weight percent) of solvent based mold release agent for each line shall be monitored for determining the hourly mass emission rate. The monthly usage per line of solvent based mold release agent and paste wax mold release agent and VOC content of spray based mold release agent and paste wax mold release agent shall be monitored for determining the annual VOC emissions.

EP 35(35): Small Parts Foam Production Lines

The daily amount of solvent based mold release agent sprayed for each line and solids content (weight percent) of solvent based mold release agent for each line shall be monitored for determining the hourly mass emission rate.

EP 36(36): Small Parts Foam Production Lines

The daily amount of solvent based mold release agent sprayed for each line and solids content (weight percent) of solvent based mold release agent for each line shall be monitored for determining the hourly mass emission rate.

PUBLIC AND U.S. EPA REVIEW:

The air quality public notice for the Draft Title V Operating Permit for Johnson Controls, Inc.-FoaMech Plant, was placed in *The Georgetown News* in Georgetown, Kentucky on May 6, 2005. Comments were received on June 5, 2005 from the facility. Responses to these comments are as follows:

COMMENT #1 – PERMIT APPLICATION SUMMARY FORM

Emissions Summary

As per our discussion on 5/24, the Actual VOC, PM10, and PT numbers in the table are numbers based upon FoaMech production for the year 2003 and taken from our emission Inventory Report for the year. They are not to be considered as permit limits in any way, shape or form.

Response #1

Emissions Summary

The numbers included in the referenced summary table are not to be considered permit limits.

Comment #2 – Section B

01(01) & 06(06) Foam Production Lines – Page 2

Per our conversation we had not found where the "Maximum Production Rate" numbers originated. Specifically, 47.4 and 20.27. Please clarify.

Applicable Regulations

A clarification on the on the opacity limits for the file – according to our conversation this would not require Smoke School. Please confirm.

Response #2

01(01) & 06(06) Foam Production Lines

The Maximum Production Rate numbers that are provided for each unit were obtained from the information that the Division had on file from the initial permit application. It was assumed that this information was still accurate since no updated information was included with the renewal application.

Applicable Regulations

As stated in the compliance demonstration method for the opacity limits in the permit, compliance is demonstrated by the building surrounding the unit, therefore smoke school is not required.

Comment #3 – Section B

11(11) Mechanism Welding – Page 4

Per our conversation we had not found where the "Maximum Production Rate" numbers originated. Specifically, .011. Please clarify.

Applicable Regulations

A clarification on the on the opacity limits for the file – according to our conversation this would not require Smoke School. Please confirm.

A clarification on "Specific Monitoring Requirements" – part c. Does this apply when we have no "stacks" as an exhaust mechanism?

Response #3

01(01) & 06(06) Foam Production Lines

The Maximum Production Rate numbers that are provided for each unit were obtained from the information that the Division had on file from the initial permit application. It was assumed that this information was still accurate since no updated information was included with the renewal application.

Applicable Regulations

Opacity compliance is demonstrated by the building surrounding the unit, therefore smoke school is not required. The Specific Monitoring Requirements given for this unit are requirements that must only be adhered to during periods of startup, shutdown, or malfunction. The indicators are not EPA methods, but are indicators of proper unit performance.

Comment #4 – Section B

34(34) Mechanism Welding – Page 6 & 7

Per our conversation we had not found where the "Maximum Production Rate" numbers originated. Specifically, 8.34. Please clarify.

Applicable Regulations

2. Emission Limitations

Could the 36 ton limit for these lines be rolled into the total tons or the plant? This would allow us some operational flexibility while keeping total emission tons in check.

A clarification on the on the opacity limits for the file – according to our conversation this would not require Smoke School. Please confirm.

A clarification on "Specific Monitoring Requirements" – part f. Does this apply to a foam line when we have no combustion mechanism? As stated in our draft permit application, the only time we would have visible emissions from any wax stack is if we had a fire.

Response #4

11(11) Mechanism Welding

The Maximum Production Rate numbers that are provided for each unit were obtained from the information that the Division had on file from the initial permit application. It was assumed that this information was still accurate since no updated information was included with the renewal application.

Applicable Regulations

The request to apply the 36 ton limit for these lines to the total tons for the plant would have to be addressed as a major revision to this proposed permit once it has been finalized.

Opacity compliance is demonstrated by the building surrounding the unit, therefore smoke school is not required. The Specific Monitoring Requirements given for this unit are requirements that must only be adhered to when applicable.

Comment #5 – Section B

35(35) Foam Production Lines – Page 8

Applicable Regulations

A clarification on the on the opacity limits for the file – according to our conversation this would not require Smoke School. Please confirm.

Response #5

35(35) Foam Production Lines

Applicable Regulations:

Opacity compliance is demonstrated by the building surrounding the unit, therefore smoke school is not required.

Comment #6 – Section F

Monitoring, Recordkeeping, and Reporting Requirements – Page 14

Number 11

According to our conversation this would require JCI – FoaMech to do no more than what is currently required of the facility relating to performance testing.

Response #6

Monitoring, Recordkeeping, and Reporting Requirements – Page 14

Number 11

The referenced requirement is a general requirement, which only states the amount of time in which performance testing is to be submitted to the division following the completion of the related fieldwork.

Comment #7 – Section G

General Provisions

Number 4 & 5

According to our conversation this would require JCI – FoaMech to do no more than what is currently required of the facility relating to performance testing.

Response #7

General Provisions

Number 4 & 5

The referenced requirements are general requirements, which must only be adhered to when applicable.

CREDIBLE EVIDENCE:

This permit contains provisions, which require that specific test methods, monitoring or record keeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.